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EXAMINER
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2167	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)
		10/779,355	PATTERSON ET AL.
Office Action Summary		Examiner	Art Unit	
		Kimberly Lovel	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 April 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This communication is responsive to the Amendment filed 24 April 2007.

2.   Claims 1-20 are pending in the current application. In the Amendment filed 24

April 2007, none of the claims were amended. This action is made Final.

3.   . The rejections of claims 1 – 6 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hattrup et al. (US 2004/0243643).

Response to Arguments

4.   Applicant's arguments with respect to claims 1 - 20 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a
person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived
by the manner in which the invention was made.

6.   Claims 1 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hattrup et al. (US 2004/0243643).

7.   Regarding claim 1, **Hattrup et al.** (hereinafter **Hattrup)** teaches a computer implemented method for storing data comprising: storing a composite data stream so that it may be restored (See page 2, paragraph [0019] "In addition, the system and method should backup and restore data, including embedded metadata, without altering the original data."), said storing including,

Decomposing the composite data stream into a plurality of constituent data streams (See page 4, paragraph [0061] "The loader 210 loads autonomous operation instructions corresponding to the data of the data source 202 into a first location 212 and autonomous operation instructions corresponding to the metadata of the metadata source 204 into a second location 214." and see page 9, paragraph [0127] "In addition, the present invention allows for the same formatting rules 408 to divide the combined, formatted data as were used to format the data for the data source 202 originally....");

Segmenting at least one of the plurality of constituent data streams decomposed from the composite data stream. (See page 5, paragraph [0069] "...configured in one embodiment to manage an autonomous third party data transfer by dividing the data object for transfer into smaller segments.")

Hattrup does not explicitly disclose discarding those of the segments resulting from said segmenting which are determined to have been stored previously.

However, it would have been obvious to one with ordinary skill in the art at the time of the invention to discard the segments which had been stored previously because as **Hattrup** discloses on page 2, paragraph [0019] "Furthermore, the system and method should minimize wasted storage space on the destination storage device."

And see page 7, paragraphs 101-102 "...the execution module 604 may check to determine if a cached fragment 518 exists. If so, the execution module 604 may transfer the cached fragment 518 before the subsequent segment 610. The server 102 or any other suitable processor may prepare the segments 610...dynamically in response to successful transfer of previous segments 610."

Because of the motivation to minimize wasted storage space, a person with ordinary skill in the art would have would have known that segments already stored could be discarded. It is for this reason that one of ordinary skill in the art would have been motivated to include discarding those of the segments resulting from said segmenting which are determined to have been stored previously.

8.   Regarding claim 2, **Hattrup** additionally discloses storing a composite data stream map [formatting rules 408] that indicates how to recompose the plurality of constituent data steams into the composite data stream. (See page 7, paragraph [0090] "The formatting rules 408 define the order for pulling data block instructions 406 and the metadata instructions 402, 404 from the first location 212 and the second location 214a, 214b. In the depicted embodiment, the formatting rules 408 indicate that a header instruction 402 (H1) is to be inserted, followed by three data block instructions..." Without using the word "map" it is clear from the disclosure the data rules make up the map for how to recompose the constituent data streams.)

9.   Regarding claim 3, **Hattrup** teaches a first of the plurality of constituent data

streams is user data and a second of the plurality of constituent data streams is

administrative data. (See page 4, paragraph [0057], describing the metadata as

including error-checking information and a timestamp, among other things disclosed in

the instant application's specification as administrative data, and see page 4, paragraph

[0061] describing the user data "...instructions corresponding to the data of the data

source 202....")

        Regarding claim 4, **Hattrup** teaches said storing further comprises: determining

a first of said plurality of constituent data streams is administrative data that may be

restored by regeneration rather than being stored; and discarding said first constituent

data stream. (See page 4, paragraph [0055] "the initialization module prepares

metadata that describes or otherwise corresponds to the data of the data

source...Alternatively, the initialization module may determine how to interface with the

data source to dynamically generate the metadata as needed." In the specification on

page 14, "regenerating" is defined as "determining it on the fly/dynamically" as is being

done here.)

10.   Regarding claim 5, **Hattrup** teaches the administrative data is tape markers

and/or header information, such as time stamps. (See page 4, paragraph [0058] "In a

preferred embodiment, the metadata also includes markers for insertion at

predetermined positions within the set of data included in the autonomous operation.

The markers may include by way of example a unique identifier, a timestamp, error

checking information...specific to a subset of the data from the data source.")

11.   Regarding claim 6, **Hattrup** teaches the storing comprises segmenting each of

the plurality of constituent data streams. (See page 5, paragraph [0069] "...configured in

one embodiment to manage an autonomous third party data transfer by dividing the

data object for transfer into smaller segments.");

12.   Claims 7 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hattrup in view of **Muthitacharoen** (Athicha Muthitacharoen, Benjie Chen, and David

Mazieres "A Low-bandwidth Network File System", MIT Laboratory for Computer

Science and NYU Department of Computer Science) (hereinafter **Muthiatacharoen**).

13.   Regarding claim 7, **Hattrup** teaches a computer implemented method for

efficiently storing data comprising: receiving over time a plurality of composite data

streams, said plurality of composite data streams representing snapshots of data

residing at a set of one or more sources taken over said time (See page 4, paragraph

[0061] "The loader 210 loads autonomous operation instructions corresponding to the

data of the data source 202 into a first location 212 and autonomous operation

instructions corresponding to the metadata of the metadata source 204 into a second

location 214." and see page 9, paragraph [0127] "In addition, the present invention

allows for the same formatting rules 408 to divide the combined, formatted data as were

used to format the data for the data source 202 originally....");

and storing each of said plurality of composite data streams so that it may be

restored   (See page 2, paragraph [0019] "In addition, the system and method should

backup and restore data, including embedded metadata, without altering the original

data."),

said storing including, decomposing the composite data stream into a plurality of

constituent data streams (See page 4, paragraph [0061] "The loader 210 loads

autonomous operation instructions corresponding to the data of the data source 202

into a first location 212 and autonomous operation instructions corresponding to the

metadata of the metadata source 204 into a second location 214." and see page 9,

paragraph [0127] "In addition, the present invention allows for the same formatting rules

408 to divide the combined, formatted data as were used to format the data for the data

source 202 originally....");

segmenting the constituent data stream (See page 5, paragraph [0069]

"...configured in one embodiment to manage an autonomous third party data transfer by

dividing the data object for transfer into smaller segments.");

and storing only those segments of the constituent data stream that cannot be

restored using segments already stored as a result of storing a previous one of said

plurality of composite data streams. (See page 2, paragraph [0019] "Furthermore, the

system and method should minimize wasted storage space on the destination storage

device." And see page 7, paragraphs 101-102 "...the execution module 604 may check

to determine if a cached fragment 518 exists. If so, the execution module 604 may

transfer the cached fragment 518 before the subsequent segment 610. The server 102

or any other suitable processor may prepare the segments 610…dynamically in

response to successful transfer of previous segments 610.")

Hattrup does not explicitly disclose storing using segment reuse a set of one or

more of said plurality of constituent data streams, said storing using segment reuse

including performing the following for each of said constituent data streams,

However **Muthitachoaroen** teaches storing using segment reuse a set of one or

more of said plurality of constituent data streams, said storing using segment reuse

including performing the following for each of said constituent data streams, (See page

13, second column ("LBFS breaks files into chunks based on contents, using the value

of a hash function on small regions of the file to determine chunk boundaries. It indexes

file chunks by their has values, and subsequently looks up chunks to reconstruct files

that contain the same data without sending that data over the network.")

It would have been obvious to one with ordinary skill in the art at the time of the

invention to combine the teachings of **Hattrup** with the segment reuse teachings of

Muthitachoaroen because both of the references state a common goal is to minimize

resources such as memory and processor cycles dealing with data transfer and use

segmenting as one way of accomplishing their tasks, and by including the segment

reuse teachings of **Muthitachoaroen**, the efficiency and storage space saving benefits

that are provided by using segment reuse are able to enhance the efficiency of the

method of **Hattrup**. It is for this reason that one of ordinary skill in the art would have

been motivated to include storing using segment reuse a set of one or more of said

plurality of constituent data streams, said storing using segment reuse including

performing the following for each of said constituent data streams.

14.   Regarding claim 8, the combination of **Hattrup** and **Muthitachoaroen**

additionally discloses storing a composite data stream map [formatting rules 408] that

indicates how to recompose the plurality of constituent data steams into the composite

data stream. (See **Hattrup** page 7, paragraph [0090] "The formatting rules 408 define

the order for pulling data block instructions 406 and the metadata instructions 402, 404

from the first location 212 and the second location 214a, 214b. In the depicted

embodiment, the formatting rules 408 indicate that a header instruction 402 (H1) is to be

inserted, followed by three data block instructions..." Without using the word "map" it is

clear from the disclosure the data rules make up the map for how to recompose the

constituent data streams.)

15.   Regarding claims 9, the combination of **Hattrup** and **Muthitachoaroen**

additionally discloses a first of the plurality of constituent data streams is user data and

a second of the plurality of constituent data streams is administrative data. (See

Hattrup page 4, paragraph [0057], describing the metadata as including error-checking

information and a timestamp, among other things disclosed in the instant application's

specification as administrative data, and see **Hattrup** page 4, paragraph [0061]

describing the user data "...instructions corresponding to the data of the data source

202....")

16.   Regarding claim 10, the combination of **Hattrup** and **Muthitachoaroen**

additionally discloses said storing further comprises: determining a first of said plurality

of constituent data streams is administrative data that may be restored by regeneration

rather than being stored; and discarding said first constituent data stream. (See

Hattrup page 4, paragraph [0055] "the initialization module prepares metadata that

describes or otherwise corresponds to the data of the data source...Alternatively, the

initialization module may determine how to interface with the data source to dynamically

generate the metadata as needed." In the specification on page 14, "regenerating" is

defined as "determining it on the fly/dynamically" as is being done here.)

17.   Regarding claim 11, the combination of **Hattrup** and **Muthitachoaroen**

additionally discloses the administrative data is tape markers and/or header

information, such as time stamps. (See **Hattrup** page 4, paragraph [0058] "In a

preferred embodiment, the metadata also includes markers for insertion at

predetermined positions within the set of data included in the autonomous operation.

The markers may include by way of example a unique identifier, a timestamp, error

checking information...specific to a subset of the data from the data source.")

18.   Regarding claim 12, the combination of **Hattrup** and **Muthitachoaroen**

additionally teaches a computer implemented method for storing data comprising:

storing a composite data stream so that it may be restored (See **Hattrup,** page 2,

paragraph [0019] "In addition, the system and method should backup and restore data,

including embedded metadata, without altering the original data."),

said storing including, decomposing the composite data stream into a plurality of

constituent data streams (See **Hattrup**, page 4, paragraph [0061] "The loader 210 loads

autonomous operation instructions corresponding to the data of the data source 202

into a first location 212 and autonomous operation instructions corresponding to the

metadata of the metadata source 204 into a second location 214." and see **Hattrup,**

page 9, paragraph [0127] "In addition, the present invention allows for the same

formatting rules 408 to divide the combined, formatted data as were used to format the

data for the data source 202 originally....");

backing up each of said plurality of constituent data streams separately, (See

Hattrup page 1, paragraph [0013] "Because the users often desire privacy and security

for the data, it is desirable that any backup operations that insert metadata into a user's

data stream also remove the metadata and restore the data to its original form. In this

manner, the user can be confident that the data is secure and the privacy is

preserved.")

applying segment reuse to back up a first set of one or more of said plurality of

constituent data streams. (See **Muthitachoaroen**, page 13, second column ("LBFS

breaks files into chunks based on contents, using the value of a hash function on small

regions of the file to determine chunk boundaries. It indexes file chunks by their has

values, and subsequently looks up chunks to reconstruct files that contain the same

data without sending that data over the network.")

19.   Regarding claim 13, the combination of **Hattrup** and **Muthitachoaroen**

additionally discloses storing a composite data stream map [formatting rules 408] that

indicates how to recompose the plurality of constituent data steams into the composite

data stream. (See **Hattrup**, page 7, paragraph [0090] "The formatting rules 408 define

the order for pulling data block instructions 406 and the metadata instructions 402, 404

from the first location 212 and the second location 214a, 214b. In the depicted

embodiment, the formatting rules 408 indicate that a header instruction 402 (H1) is to be

inserted, followed by three data block instructions..." Without using the word "map" it is

clear from the disclosure the data rules make up the map for how to recompose the

constituent data streams.)

20.   Regarding claim 14, the combination of **Hattrup** and **Muthitachoaroen**

additionally teaches discarding a second set of one or more of said plurality of

constituent data streams because they are administrative data that may be restored

using regeneration as opposed to storage. (See **Hattrup**, page 4, paragraph [0055]

"the initialization module prepares metadata that describes or otherwise corresponds to

the data of the data source...Alternatively, the initialization module may determine how

to interface with the data source to dynamically generate the metadata as needed." In

the specification on page 14, "regenerating" is defined as "determining it on the

fly/dynamically" as is being done here. In this case, the admin data of the constituent

data stream is not stored because it is created dynamically.)

21.   Claims 15 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hattrup in view of **Muthitacharoen**.

22.   Regarding claim 15, **Hattrup** teaches an apparatus to back up data comprising:

an interface agent to receive over time composite data streams representing snapshots

of data residing at a set of one or more sources (See page 4, paragraph [0061] "The

loader 210 loads autonomous operation instructions corresponding to the data of the

data source 202 into a first location 212 and autonomous operation instructions

corresponding to the metadata of the metadata source 204 into a second location 214."

and see page 9, paragraph [0127] "In addition, the present invention allows for the

same formatting rules 408 to divide the combined, formatted data as were used to

format the data for the data source 202 originally...");

        a composite data stream decomposer/recomposer, coupled to said interface

agent, to decompose [divide] composite data streams [combined, formatted data] into

their constituent data streams (See page 9, paragraph [0127] "In addition, the present

invention allows for the same formatting rules 408 to divide the combined, formatted

data as were used to format the data for the data source 202 originally."), and to

recompose composite data streams from their constituent data streams (See page 9,

paragraph [0126] FIG. 13 illustrates a block diagram of one manner in which the

...apparatus of the present invention may be used to restore data and validate metadata

inserted within the data stream under the present invention.")

Hattrup does not explicitly disclose a segment reuse storage system, coupled to

said composite data stream decomposer/recomposer, to store and restore constituent

data streams.

However, **Muthitachoaroen** teaches a segment reuse storage system, coupled

to said composite data stream decomposer/recomposer, to store and restore

constituent data streams. (See page 13, second column ("LBFS breaks files into chunks

based on contents, using the value of a hash function on small regions of the file to

determine chunk boundaries. It indexes file chunks by their has values, and

subsequently looks up chunks to reconstruct files that contain the same data without

sending that data over the network.")

It would have been obvious to one with ordinary skill in the art at the time of the

invention to combine the teachings of **Hattrup** with the segment reuse teachings of

Muthitachoaroen because both of the references state a common goal is to minimize

resources such as memory and processor cycles dealing with data transfer and use

segmenting as one way of accomplishing their tasks, and by including the segment

reuse teachings of **Muthitachoaroen**, the efficiency and storage space saving benefits

that are provided by using segment reuse are able to enhance the efficiency of the

method of **Hattrup**. It is for this reason that one of ordinary skill in the art would have

been motivated to include a segment reuse storage system, coupled to said composite

data stream decomposer/recomposer, to store and restore constituent data streams.

23.   Regarding claim 16, the combination of **Hattrup** and **Muthitachoaroen** discloses

a map file storage, coupled to said composite data stream decomposer/recomposer, to

store data indicating how to recompose the plurality of constituent data steams into the

composite data stream. (See **Hattrup**, page 7, paragraph [0090] "The formatting rules

408 define the order for pulling data block instructions 406 and the metadata

instructions 402, 404 from the first location 212 and the second location 214a, 214b. In

the depicted embodiment, the formatting rules 408 indicate that a header instruction 402

(H1) is to be inserted, followed by three data block instructions..." Without using the

word "map" it is clear from the disclosure the data rules make up the map for how to

recompose the constituent data streams.)

24.   Regarding claim 17, the combination of **Hattrup** and **Muthitachoaroen**

additionally teaches an administrative data regenerator, coupled to said composite data

stream decomposer/recomposer, to regenerate data from constituent data streams that

was not stored because that data could be restored by regeneration (See **Hattrup**, page

4, paragraph [0055] "the initialization module prepares metadata that describes or

otherwise corresponds to the data of the data source...Alternatively, the initialization

module may determine how to interface with the data source to dynamically generate

the metadata as needed." In the specification on page 14, "regenerating" is defined as "determining it on the fly/dynamically" as is being done here.)

25.   Regarding claim 18, the combination of **Hattrup** and **Muthitachoaroen** additionally teaches the administrative data is regenerated in accordance with composite data stream attribute data retrieved from a configuration file (See **Hattrup** page 4, paragraph [0055] "Specifically, the initialization module preferable identifies the metadata source which may be data stored in memory or on a storage medium.")

26.   Regarding claim 19, the combination of **Hattrup** and **Muthitachoaroen** additionally teaches the composite data stream decomposer/recomposer is a machine-readable medium having stored thereon a set of instructions, which, when executed by a set of one or more processors, cause the operations of the composite data stream decomposer/recomposer to be performed. (see **Hattrup**, page 11, claim 26)

27.   Regarding claim 20, the combination of **Hattrup** and **Muthitachoaroen** additionally teaches the composite data stream decomposer/recomposer is an application specific integrated circuit. (See **Hattrup** page 3, paragraph [0045] "For example, a module may be implemented as a hardware circuit comprising custom VLSI circuits or gate arrays, off-the-shelf semiconductors such as logic chips, transistors, or other discrete components.")

Response to Arguments

28.   Applicant's arguments filed 24 April 2007 have been fully considered but they are

not persuasive.

In regards to applicants' arguments on page 9 concerning claim 1, applicant's

state: First, the Office Action indicates that Hattrup describes "decomposing the

composite data stream into a plurality of constituent data streams. Office Action p. 3.

However, Applicant submits that Hattrup does not describe the above limitation because

Hattrup does not decompose the composite data stream prior to storage in the

destination storage device."

The examiner respectfully disagrees. The data and the metadata of the stream

are stored in two locations. Therefore, in order for the metadata and data of the stream

to be stored in two separate locations, it must first be separated [decomposed] into

metadata and data streams [constituent streams]. Also, in [0120] Hattrup states "the

formatting rules 408 allow the data to be divided and stored in a first location 212 and

one or more second locations 214a, 214b.

The applicants continue to argue that "However, as discussed above, Hattrup

does not decompose the composite data stream prior to storage. As a result, Hattrup

cannot segment the decomposed data stream because Hattrup never decomposed the

composite data stream into its constituent data streams (i.e. stripping off the metadata

before storage).

As discussed above, the examiner believes that Hattrup discloses decomposing the data stream. Therefore, Hattrup also discloses segmenting the decomposed data stream as depicted in the above rejection of the claim limitation.

In response to the arguments on page 11 concerning the motivation to combine, it is noted that it has been well established in the art to store data only once, therefore discarding duplicated data by comparing a piece of data to be stored with already stored pieces of data is well known to one of ordinary skill in the art. Therefore, in the case of the present invention, the data streams have been segmented into individual pieces of data and now each have the ability to be compared on an individual basis as taught previously.

In regards to the arguments concerning claims 2-20 on pages 12-17, the examiner respectfully disagrees that Hattrup fails to disclose the step of decomposing the composite data stream for the reasons discussed above and therefore the rejections of claims 1-20 have been maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time
policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed within
TWO MONTHS of the mailing date of this final action and the advisory action is not
mailed until after the end of the THREE-MONTH shortened statutory period, then the
shortened statutory period will expire on the date the advisory action is mailed, and any
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of
the advisory action. In no event, however, will the statutory period for reply expire later
than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Lovel whose telephone number is (571) 272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kimberly Lovel
Examiner
Art Unit 2167

22 July 2007
kml

JOHN COTTINGHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100